

Energy Savings Agreements and Their Effect on Debt Capacity Calculation



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Old/New Utility Model in U.S.

- Old model (1920's) was designed to produce more and more electricity and encourage electricity usage
- New model of energy usage is to encourage less energy usage
- New energy model depends on consumer's reducing their energy usage
- Delaware State University has accepted the challenge by doing a number of things that will reduce the overall energy usage on the campus
- The State of Delaware has passed an energy bill that encouraged the reduction in energy use among all sectors; the public sector took the lead
- New energy model depends on actions of universities and colleges around the country to take action on reducing consumption and increasing energy efficiency independent of large scale utilities.

State of Delaware Energy Initiative

- Governor's Energy Task force created
- Developed legislation to curb dependency on fossil fuels and expansion of diversity fuels used to meet current and future needs
- Created Sustainable Energy Utility (SEU) which coordinates services that target residential, commercial, industrial and transportation energy end users in energy markets
- SEU will use competitively selected implementation contractors to deliver services utilizing performance based contracts
- SEU authorized to issue State of Delaware backed bonds
- This will significantly improve the University's deferred maintenance of \$58 million by almost 20%

MOVING TOWARD THIS INITIATIVE

- DSU joins the ACUPCC
- Unprecedented energy bill was passed and SEU was created
- Governor's Executive Order 18 and enacted legislation
 - 20% reduction in consumption by end of FY 2013
 - 30% reduction in consumption by end of FY 2015
- DSU Board of Trustees calls for reduction of energy consumption and green house gases on campus

The result was:

- Selected Johnson Control as the ESCO
- IGA (Investment Grade Audit)
- GESA (Guaranteed Energy Savings Agreement)

Executive Summary

JCI Investment Grade Energy Audit

Performed by –Johnson Controls, Inc.

The original Investment Grade Audit, performed by JCI in November 2010, for our current energy savings project identified and recommended the following Energy Conservation Measures (ECM's):

Campus Wide:

- Lighting Systems Upgrades (41,845) – replace existing lamps & ballasts
- Lighting Controls Installation (1,924) – wall & ceiling mounted occupancy sensors
- Vending Machine Controls (51) – place occupancy sensors on vending machines
- Building Envelope (1,305+) – new thresholds & door sweeps; re-caulk, weather strip, & insulate
- Domestic Water Upgrades (3,046) – flush valves, faucet aerators, & showerheads

- Demand Control Ventilation (25+) – fresh air economizer w/ occupancy sensor
- Controls Upgrades (1,521) – equipment, controllers, variable frequency drives
- Boiler Controls (34) – install heating system economizer
- PC Management System – reduce PC energy usage within IT infrastructure
- E2MS – web-based energy & emissions information management system

Individual Buildings:

- Boiler Replacement (2)– Tubman Hall & Grossley Hall
- Kitchen Hood Controls (1) – MLK
- Variable Frequency Drives (7) – E&H, SCN, SCS, Jason Library
- Roof Replacement (1) – Price Building
- Chiller Replacement (2) – Jason Library, ETV
- HVAC Unit Replacement (23) – Baker Ext., E&H, Price, Library, Evers, Jenkins
- Add Summer Domestic Hot Water Heater & Tank (1 ea.) – Conwell Hall
- Motor Replacement (17) – Science Center South

Executive Summary

GESA Phase I – Implementation

Performed by –Johnson Controls, Inc.

The execution of the GESA Phase I project included the following ECM's, some of which have been either modified or excluded (shown in red) from the original IGA findings:

Campus Wide:

- Lighting Systems Upgrades (41,845) – replace existing lamps & ballasts
- Lighting Controls Installation (1,924) – wall & ceiling mounted occupancy sensors (identified challenges where rooms now with partitions for offices negate the motion requirement for activation)
- Vending Machine Controls (15) – sensors removed from soda machines
- Building Envelope (1,305+) – locations varied due to need, but quantity remained
- Domestic Water Upgrades (3,046) – flush valves, faucet aerators, & showerheads (shower head flow reduction created need to add circulating pumps in lines)

- Demand Control Ventilation (25+) – fresh air economizer w/ occupancy sensor
- Controls Upgrades (1,521) – equipment, controllers, variable frequency drives (construction identified in-operable controls in Science labs that anticipated)
- Boiler Controls (34) – install heating system economizer
- PC Management System – reduce PC energy usage within IT infrastructure (current CPU's under system are lower than design intent and is under review)
- E2MS – web-based energy & emissions information management system (currently coordinating responsibilities between Honeywell, JCI, DSU and controls contractors for operational responsibilities)

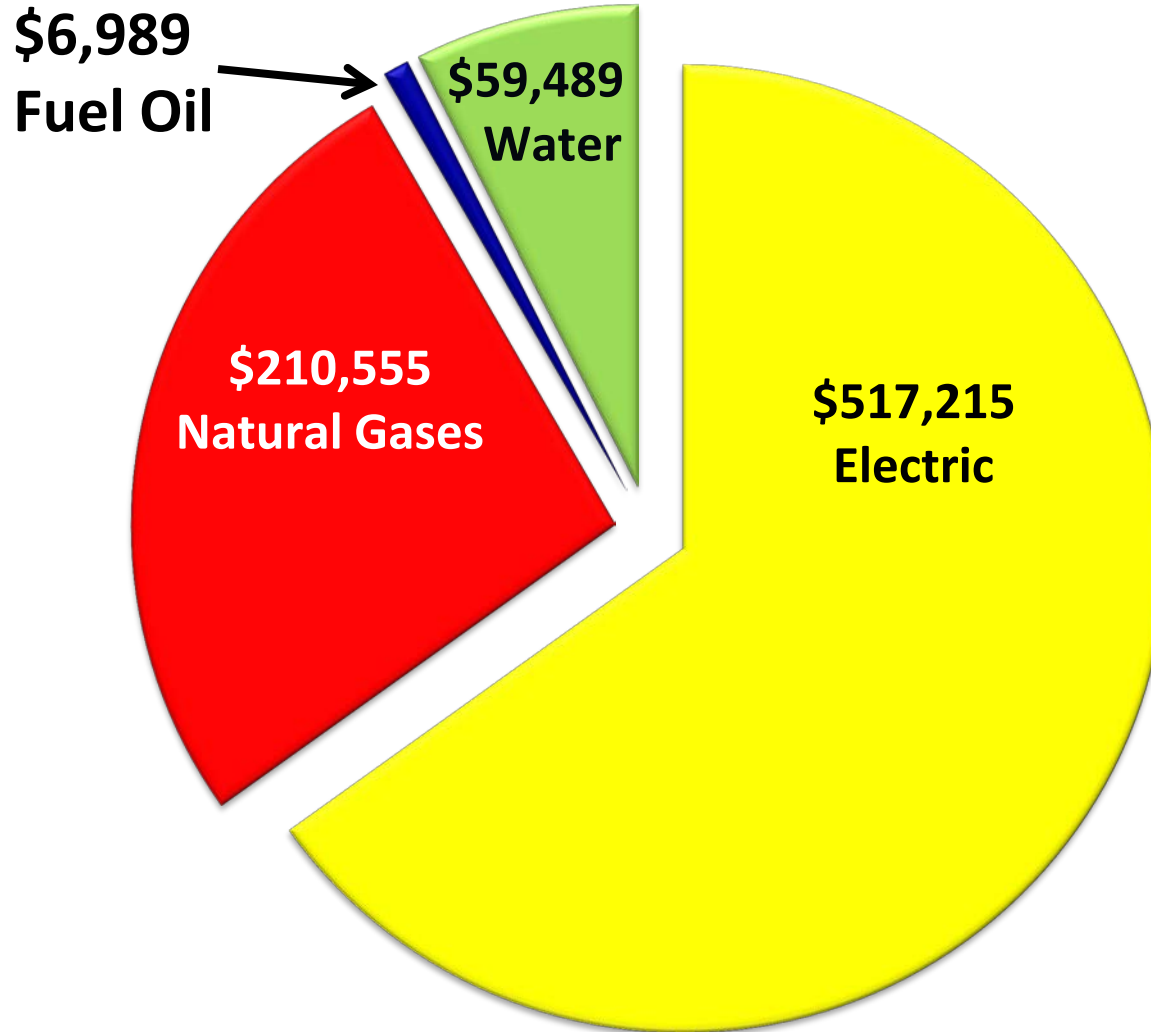
Individual Buildings:

- Boiler Replacement (2)– Tubman Hall & Grossley Hall
- Kitchen Hood Controls (1) – MLK
- Variable Frequency Drives (4) – excluding SC's, dampers installed in lieu of VFD's
- Roof Replacement (1) – Price Building

- Chiller Replacement (2) – Jason Library, ETV
- HVAC Unit Replacement (23) – Baker Ext., E&H, Price, Library, Evers, Jenkins
- Add Summer Domestic Hot Water Heater & Tank (1 ea.) – Conwell Hall
- Motor Replacement (9) – SCS RTU's 1 & 3 replaced therefore no motor change; motor changes at (6) exhaust hood were unfeasible

DSU UTILITY SAVINGS PROJECT

UTILITY SAVINGS



UTILITY SAVINGS

DSU Utility Savings Project

\$11.3 Million Investment

26 Buildings upgrade/modernization:

HVAC

Demand Control Ventilation

Roof Replacement

Occupancy Controls

E2MS – Greenhouse Gases Reporting

PC Management

Flow Controls Dorm retrofit

\$5.2 Million Net Energy Savings in 20 years

DSU GUARANTEED SAVINGS	
Total Cost	\$19.3 million
Guaranteed savings	\$24.6 million
Net savings to DSU	\$ 5.3 million

Additional Bonds Test

FYE 6/30/10 On Balance Sheet	Included in Debt Capacity	Excluded from Debt Capacity
Unrestricted Current Fund Revenues		
Total Operating Revenues (Net of \$20.2 million scholarship allowance)	\$57,903,998	\$57,903,998
Less: Federal Grants	(25,447,278)	(25,447,278)
Unrestricted Operating Revenues	32,456,720	32,456,720
Plus: Non-Operating Revenues	1,292,830	1,292,830
Unrestricted Current Funds (UCF)	\$33,749,550	\$33,749,550
Maximum Annual Debt Service** (MADS)	4,355,454	3,479,175
MADS < 14% UCF	12.91%	10.31%

** Annual debt service on \$11.3 million is approximately \$876,279. Remaining Debt capacity would be approximately \$6.0 million.

FYE 6/30/12	Included in Debt Capacity
Unrestricted Current Fund Revenues	
Total Operating Revenues (Net of \$21.5 million scholarship allowance)	\$75,469,446
DSUSHF – Village Revenues	6,894,954
Less: Federal Grants	(28,709,870)
Unrestricted Operating Revenues	53,654,531
Plus: Non-Operating Revenues	1,495,522
Pledged Revenues from State	948,547
Unrestricted Current Funds (UCF)	\$56,098,600
Maximum Annual Debt Service** (MADS)	7,379,997
MADS < 14% UCF	13.16%
Additional Annual Debt service @ 14%	\$473,807
Remaining debt Capacity @14%	\$7,283,575

Project Effect on Carbon Footprint:

- CO₂ sequestered by 145,416 tree seedlings grown for 10 years in an urban environment
- or
- CO₂ sequestered by 1,289 acres of pine or fir trees
- or
- CO₂ emissions from 1,038 passenger vehicles
- or
- CO₂ emissions from 13,189 barrels of oil consumed
- or
- CO₂ emissions from 516 homes for one year's energy usage
- or
- CO₂ emissions from burning 30 railcars of coal

Better Building Challenge

- Second Nature/ACUPCC selected DSU as one of the 2011 award recipients for the Excellence in Climate Leadership
- Late 2011 – The White House selects 47 organizations and nine universities (including DSU) to participate in the Better Buildings Challenge
- Selected organizations and universities were challenged to reduce energy consumption by a minimum of 20% by the year 2020
- As a result of its guaranteed energy savings agreement, DSU is projected to achieve a 25% reduction by the year 2013

**“The trouble with our time is that the future
is not what it used to be.”**

Paul Valéry (1871 – 1945)

**“The pessimist complains about the wind.
The optimist expects it to change.
And the realist adjusts the sails.”**

William Arthur Ward (1921 – 1994)



Grant Thornton

Accounting & Financial Reporting
Considerations-DSU Guaranteed Energy
Savings Agreement

Eastern Association of College & University Business Officers

Cosmo Saginario, Partner
Northeast Higher Education Practice

Discussion Topics

- Guaranteed Savings
- Funding Impact On Debt Capacity
- ON-OFF Balance Sheet Considerations
- Financial Reporting & Disclosure

Guaranteed Savings

- Guaranteed Savings-Really?
- Structure & Content of Agreement
- Rights of Ownership
- How Are Savings Measured/Monitored?



Guaranteed Savings

- Professional Skepticism
- What are Savings Based Upon
- Energy Audit
- Measurable & Quantifiable

Structure & Content

- Agreement – Lots of Reading
- Who Are The Players
 - State of DE Sustainable Energy Utility (SEU)
 - DSU
 - ESCO
- How Implemented

Impact on Debt Capacity

- Borrowing Limits?
- Work With State
 - State law needs to be amended to include the ability to process debt service payments from energy appropriations
- Structure Agreement
 - Discussions needed with rating agencies for determination to not include this investment in the calculation of debt capacity

Financial Statement Considerations

- On/Off Balance Sheet
 - Lease Accounting vs. Capital Assets
 - Rights of Ownership & Maintenance
 - Bond Financing
- On Balance Sheet Off Debt Calculation
 - GESAs have evolved to more reliably guarantee savings & hold energy savings companies (ESCO) accountable for unmet savings

Financial Statement Considerations

- Debits & Credits
- Disclosures

In the End

- Early Involvement
- Work w/ State & Credit Agencies
 - On Balance Sheet; Off Debt Capacity Calculation
 - Work with rating agencies to exclude cash neutral transactions from debt calculation
- Manage Expectations
- Consider GAAP & Financial Reporting Requirements & Disclosures

Questions

